

Refine Search

Your wildcard search against 10000 terms has yielded the results below.

Your result set for the last L# is incomplete.

The probable cause is use of unlimited truncation. Revise your search strategy to use limited truncation.

Search Results -

| Terms | Documents |
|-------------------------|-----------|
| L1 and (xml same tag\$) | 1 |

Database:

US Pre-Grant Publication Full-Text Database
 US Patents Full-Text Database
 US OCR Full-Text Database
 EPO Abstracts Database
 JPO Abstracts Database
 Derwent World Patents Index
 IBM Technical Disclosure Bulletins

Search:

L5

Refine Search

Recall Text

Clear

Interrupt

Search History

DATE: Saturday, September 11, 2004 [Printable Copy](#) [Create Case](#)

Set Name Query
side by side

Hit Count Set Name
result set

DB=USPT; THES=ASSIGNEE; PLUR=YES; OP=OR

| | | | |
|-----------|---|---|-----------|
| <u>L5</u> | L1 and (xml same tag\$) | 1 | <u>L5</u> |
| <u>L4</u> | L1 and xml | 3 | <u>L4</u> |
| <u>L3</u> | L1 and (meta\$ same (pars\$ or contract\$)) | 2 | <u>L3</u> |
| <u>L2</u> | L1 and contract\$ | 3 | <u>L2</u> |
| <u>L1</u> | 6640145.pn. or 6591272.pn. or 5970490.pn. | 3 | <u>L1</u> |

END OF SEARCH HISTORY

First Hit Fwd Refs
End of Result Set

Previous Doc Next Doc Go to Doc#

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L5: Entry 1 of 1

File: USPT

Oct 19, 1999

DOCUMENT-IDENTIFIER: US 5970490 A

TITLE: Integration platform for heterogeneous databases

Detailed Description Text (459):

45: 65
46: 5 This MetaFrame indicates that an ORDER consists of an ID, the last and first names of the Person to whom the order is sold, the Date sold, and a list of multiple ITEMS--each of which has a PRICE and is either a Book, a Record, or Coffee-- alternation ".vertline." on the right hand side of a substructure expression means exclusive "OR". The ID is a named attribute inside a XML tag.

Previous Doc Next Doc Go to Doc#

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Your wildcard search against 10000 terms has yielded the results below.

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Search Results -

| Terms | Documents |
|--|-----------|
| L1 and ((distribut\$ or get\$ or receiv\$) with (rule or condition)) | 2 |

Database:

US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
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 EPO Abstracts Database
 JPO Abstracts Database
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 IBM Technical Disclosure Bulletins

Search:

L1 and contract

Refine Search

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Search History

DATE: Saturday, September 11, 2004 [Printable Copy](#) [Create Case](#)

Set Name Query

side by side

Hit Count Set Name

result set

DB=USPT; THES=ASSIGNEE; PLUR=YES; OP=OR

| | | | |
|------------|--|---|------------|
| <u>L10</u> | L1 and ((distribut\$ or get\$ or receiv\$) with (rule or condition)) | 2 | <u>L10</u> |
| <u>L9</u> | L1 and (receiv\$ same (rule or condition)) | 1 | <u>L9</u> |
| <u>L8</u> | L1 and (receiv\$ with (rule or condition)) | 1 | <u>L8</u> |
| <u>L7</u> | L1 and (login\$ or register\$) | 3 | <u>L7</u> |
| <u>L6</u> | L1 and (log\$ or register\$) | 3 | <u>L6</u> |
| <u>L5</u> | L1 and pars\$ | 2 | <u>L5</u> |
| <u>L4</u> | L1 and tag\$ | 3 | <u>L4</u> |
| <u>L3</u> | L2 and xml | 3 | <u>L3</u> |
| <u>L2</u> | 6640145.pn. or 6591272.pn. or 5970490.pn. | 3 | <u>L2</u> |
| <u>L1</u> | 6640145.pn. or 6591272.pn. or 5970490.pn. | 3 | <u>L1</u> |

END OF SEARCH HISTORY

A



Indigo InstantNotifier™

The Indigo InstantNotifier™ solution was designed to meet the needs of an eclectic breed of customers ranging from enterprises to content providers. It answers the critical issues of mobility and device independence faced by today's workforce as well as those of the everyday consumer. The InstantNotifier is presence-enabled, whereby inconstant yet critical information such as recipient availability is collected and maintained by presence-capable applications and can be used to facilitate the instant delivery of crucial data ranging from security alerts to stock quotes to job opportunities, onto to the device currently in use by the recipient.

Consequently, the Indigo InstantNotifier™ solution allows enterprises or content providers to deal with their staff or customers' mobility without interrupting critical information delivery. By providing intelligent content routing, the solution eliminates multiple and possibly useless deliveries of volatile information, significantly reducing cost of transport while alleviating recipients' stress of remaining anchored to a particular device.



Related
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[Indigo
Presence
Server & SDK](#)



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Generate Collection

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L1: Entry 1 of 3

File: USPT

Oct 28, 2003

US-PAT-NO: 6640145

DOCUMENT-IDENTIFIER: US 6640145 B2

TITLE: Media recording device with packet data interface

DATE-ISSUED: October 28, 2003

INVENTOR-INFORMATION:

| NAME | CITY | STATE | ZIP CODE | COUNTRY |
|----------------------------|---------------|-------|----------|---------|
| Hoffberg; Steven | West Harrison | NY | 10604 | |
| Hoffberg-Borghesani; Linda | Acton | MA | 01720 | |

APPL-NO: 10/ 162079 [\[PALM\]](#)

DATE FILED: June 3, 2002

PARENT-CASE:

The present application is a continuation of U.S. patent application Ser. No. 09/241,135, filed Feb. 1, 1999, now issued as U.S. Pat. No. 6,400,996, issued Jun. 4, 2002.

INT-CL: [07] G05 B 15/00

US-CL-ISSUED: 700/83; 700/17, 700/23, 700/19, 709/200, 709/201, 709/202, 704/200, 704/201, 704/7

US-CL-CURRENT: 700/83; 700/17, 700/19, 700/23, 704/200, 704/201, 704/7, 709/200, 709/201, 709/202

FIELD-OF-SEARCH: 700/17, 700/18, 700/19, 700/23-25, 700/83, 700/86-87, 370/218, 370/219, 370/220, 370/355, 370/356, 704/378, 704/100-102, 704/200-201, 704/227, 704/223, 704/224, 345/157, 345/810, 345/835, 345/840, 345/841, 345/741, 709/200, 709/201, 709/202

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected

Search ALL

Clear

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| <input type="checkbox"/> | <u>3609684</u> | September 1971 | Lipp | 340/146.3C |
| <input type="checkbox"/> | <u>3849760</u> | November 1974 | Endou et al. | 340/146.3H |
| <input type="checkbox"/> | <u>3928719</u> | December 1975 | Sasabe et al. | 178/6.8 |
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| <input type="checkbox"/> | <u>4100370</u> | July 1978 | Suzuki et al. | 179/1SB |
| <input type="checkbox"/> | <u>4117511</u> | September 1978 | Baer et al. | 358/83 |
| <input type="checkbox"/> | <u>4118730</u> | October 1978 | Lemelson | 358/93 |
| <input type="checkbox"/> | <u>4148061</u> | April 1979 | Lemelson | 358/101 |
| <input type="checkbox"/> | <u>4203076</u> | May 1980 | Yamashita | 331/25 |
| <input type="checkbox"/> | <u>4208652</u> | June 1980 | Marshall | 340/146.3Y |
| <input type="checkbox"/> | <u>4213183</u> | July 1980 | Barron et al. | 364/507 |
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| <input type="checkbox"/> | <u>4228421</u> | October 1980 | Asada | 340/146.3MA |
| <input type="checkbox"/> | <u>4230990</u> | October 1980 | Lert, Jr. et al. | 455/67 |
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| <input type="checkbox"/> | <u>4245245</u> | January 1981 | Matsumoto et al. | 358/122 |
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| <input type="checkbox"/> | <u>4331974</u> | May 1982 | Cogswell et al. | 358/86 |
| <input type="checkbox"/> | <u>4337529</u> | June 1982 | Morokawa | 368/10 |
| <input type="checkbox"/> | <u>4338626</u> | July 1982 | Lemelson | 358/93 |
| <input type="checkbox"/> | <u>4346407</u> | August 1982 | Baer et al. | 358/149 |
| <input type="checkbox"/> | <u>4390904</u> | June 1983 | Johnston et al. | 358/335 |
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| <input type="checkbox"/> | <u>4417246</u> | November 1983 | Agnor et al. | 340/825.44 |
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| <input type="checkbox"/> | <u>6542925</u> | April 2003 | Brown et al. | 709/208 |

FOREIGN PATENT DOCUMENTS

| FOREIGN-PAT-NO | PUBN-DATE | COUNTRY | US-CL |
|----------------|---------------|---------|-------|
| WO 97/06613 | February 1997 | WO | |
| WO 99/14947 | August 1998 | WO | |
| WO 98/43380 | October 1998 | WO | |
| WO 98/47249 | October 1998 | WO | |
| WO 99/30493 | June 1999 | WO | |
| WO 99/39466 | August 1999 | WO | |
| WO 99/43111 | August 1999 | WO | |

OTHER PUBLICATIONS

Ando et al., US 2003/0059208 A1, Mar. 27, 2003, Digital Video Recording System and its Recording Medium.

ART-UNIT: 2121

PRIMARY-EXAMINER: Patel; Ramesh

ATTY-AGENT-FIRM: Milde & Hoffberg LLP

ABSTRACT:

An intelligent media device, comprising a packet data communications interface; a media communication interface for receiving audio and/or video data; a digital memory for persistently storing received audio and/or video data; and an intelligent server for generating a virtual interface for controlling the media communication interface and the digital memory through said packet data communications interface. The intelligent server may be adaptive. A variety of devices may be interfaced through the packet data communications interface, including telephony, imaging, videoconferencing, security, alarm, environmental control, vehicular, illumination system, domestic appliance; fluid and handling systems, as well as consumer electronic devices. A digital rights manager for enforcing a set of externally supplied restrictions associated with the received audio and/or video data may be incorporated, with a cryptographic processor for selectively cryptoprocessing audio and/or video data in dependence on said rights manager being provided to limit access to the audio and/or video data content.

23 Claims, 32 Drawing figures

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L2: Entry 3 of 3

File: USPT

Oct 19, 1999

US-PAT-NO: 5970490

DOCUMENT-IDENTIFIER: US 5970490 A

TITLE: Integration platform for heterogeneous databases

DATE-ISSUED: October 19, 1999

INVENTOR-INFORMATION:

| NAME | CITY | STATE | ZIP CODE | COUNTRY |
|----------------------|--------|-------|----------|---------|
| Morgenstern; Matthew | Ithaca | NY | | |

ASSIGNEE-INFORMATION:

| NAME | CITY | STATE | ZIP CODE | COUNTRY | TYPE CODE |
|-------------------|----------|-------|----------|---------|-----------|
| Xerox Corporation | Stamford | CT | | | 02 |

APPL-NO: 08/ 963853 [\[PALM\]](#)

DATE FILED: November 4, 1997

PARENT-CASE:

This application claims priority of Provisional U.S Pat. Application No. 60/030,215, filed Nov. 5, 1996 the subject matter of this application is fully incorporated herein.

INT-CL: [06] [G06 F 17/30](#)

US-CL-ISSUED: 707/10; 707/103, 707/104

US-CL-CURRENT: [707/10](#); [707/104.1](#)

FIELD-OF-SEARCH: 707/10, 707/103, 707/104

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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| | PAT-NO | ISSUE-DATE | PATENTEE-NAME | US-CL |
|--------------------------|-------------------------|----------------|---------------|---------|
| <input type="checkbox"/> | 5560005 | September 1996 | Hoover et al. | 707/10 |
| <input type="checkbox"/> | 5627979 | May 1997 | Chang et al. | 345/335 |
| <input type="checkbox"/> | 5724575 | March 1998 | Hoover et al. | 707/10 |
| <input type="checkbox"/> | 5758351 | May 1998 | Gibson et al. | 707/104 |

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| <input type="checkbox"/> | <u>5809507</u> | September 1998 | Cavanaugh, III | 707/103 |
| <input type="checkbox"/> | <u>5815415</u> | September 1998 | Bentley et al. | 364/578 |

OTHER PUBLICATIONS

Common Object Request Broker Architecture,
<http://www.sei.cmu.edu/activities/str/descriptions/corba.sub.-body.html>, Jan. 10, 1997.
 Object Request Broker, <http://www.sei.cmu.edu/activities/str/descriptions/orb.sub.-body.html>. Jun. 25, 1997.

ART-UNIT: 277

PRIMARY-EXAMINER: Amsbury; Wayne

ASSISTANT-EXAMINER: Alam; Shahid

ATTY-AGENT-FIRM: Cox; Diana M.

ABSTRACT:

A method for processing heterogeneous data including high level specifications to drive program generation of information mediators, inclusion of structured file formats (also referred to as data interface languages) in a uniform manner with heterogeneous database schema, development of a uniform data description language across a wide range of data schemas and structured formats, and use of annotations to separate out from such specifications the heterogeneity and differences that heretofore have led to costly special purpose interfaces with emphasis on self-description of information mediators and other software modules.

18 Claims, 5 Drawing figures

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Generate Collection

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L3: Entry 2 of 3

File: USPT

Jul 8, 2003

DOCUMENT-IDENTIFIER: US 6591272.B1

TITLE: Method and apparatus to make and transmit objects from a database on a server computer to a client computer

Detailed Description Text (6):

Skeleton code templates 22, generalized versions of the final objects to be produced, are also supplied to the software 21. Code 26(a-z) for the class of the particular objects desired by the user, e.g. Java/C++, XML, sed or shell scripts, IDL etc. is then generated. The code 26 is used to implement the standardized view of the table 24.

Detailed Description Text (16):

This document provides, for reference purposes, a detailed definition of the OBJECTSERVERFACTORY product (OSF) and the PRO-OBJECTS, support classes, XML, and scripts generated by OSF.

Detailed Description Text (198):

As an example of this language-independent code generation capability of OSF, observe in the Template Use Summary table above, UNIX sedlanguage translation files are generated to apply a single foreign language translation to multiple resource bundle class files..Also, several sets of HTML files are also created from templates as well for use in ultra-thin clients. For EJBs, XML deployment descriptors and are also generated.

Detailed Description Text (421):

It is very important to get these names correct, as they will be used in literally dozens of places: in the IDL, build scripts, XML files, server and client software. As a result, OSF has sophisticated algorithms to convert table names to base object names and to create attribute names from column names. However, the algorithms require quick review by the system designer to ensure that they are absolutely correct. Consider FIG. 14 in the drawings section.

Detailed Description Text (458):

This is the directory where the various .java, .html, .cpp, .xml, .sed, .cmd, .sh, and other input templates are to be found. See the templates directory on the CD-ROM filed herewith.

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File: USPT

Jul 8, 2003

DOCUMENT-IDENTIFIER: US 6591272 B1

TITLE: Method and apparatus to make and transmit objects from a database on a server computer to a client computer

Detailed Description Paragraph Table (80):

```
public void appenAttribute (String _attribute) { // if a delimiter is encountered,
add an adjacent delimiter which // will be removed by the ORB Stream parser on the
receiving end // null checks first if (_attribute == null) { append
(NULLATTRIBUTE) ; return; } if (_attribute.length ( ) == 0) { append
(NULLATTRIBUTE) ; return; } // scan for delims, if found replace delimiter
_attribute.replace (STREAMDELIMITER, DELIMITERINSTREAM) ; append (_attribute) ; }
```

Detailed Description Paragraph Table (107):

```
public String getParameter(String _searchargument) throws IllegalArgumentException {
String parameter = (String) table.get(_searchargument); if (parameter == null)
{ displayErrorMessage (_searchargument); throw new IllegalArgumentException( "Not
found in registry: " + _searchargument); } return parameter; } public String
getParameterAsString (String _searchargument) throws IllegalArgumentException {
return getParameter(_searchargument); } public int getParameterAsInt (String
_searchargument) throws IllegalArgumentException { String parameter = (String)
table.get(_searchargument); if (parameter == null) { displayErrorMessage
(_searchargument); throw new IllegalArgumentException( "Not found in registry: " +
_searchargument); } int parsedparameter = 0; try { parsedparameter =
Integer.parseInt(parameter); } catch (NumberFormatException nfe) { throw new
IllegalArgumentException( "Registry arg format error, not an int-" + parameter + ",
s-" + _searchargument); } return parsedparameter; } public double
getParameterAsDouble (String _searchargument) throws IllegalArgumentException {
String parameter = (String) table.get(_searchargument); if (parameter == null)
{ displayErrorMessage (_searchargument); throw new IllegalArgumentException( "Not
found in registry: " + _searchargument); } double parsedparameter = 0.0; try
{ parsedparameter = Double.valueOf(parameter).doubleValue( ); } catch
(NumberFormatException nfe) { String message = "Registry arg format error, not a
double-" + parameter + ", s-" + _searchargument; throw new IllegalArgumentException
(message); } return parsedparameter; } public boolean getParameterAsBoolean(String
_searchargument) throws IllegalArgumentException { String parameter = (String)
table.get(_searchargument); if (parameter == null) { displayErrorMessage
(_searchargument); throw new IllegalArgumentException( "Not found in registry: " +
_searchargument); } if (parameter.compareTo(TRUE) == 0) { return true; } return
false; } private void displayErrorMessage (String _searchargument) { // build
message String message = this.getClass( ).getName( ) + "-E-NotInRegistry, paramater
with internal representation-" + _searchargument + "not found in Registry"; // log
message using sysman ref if available if (sysman_ != null) { sysman_.logMessage
(message); } else { System.out.println(message); } }
```

Detailed Description Paragraph Table (111):

Target in Skeleton Function and Operation by Template file OSFGenerate ##Package##
-> package target (0) ##TableObjectName## -> normalised table name (1)
##TABLENAME## -> insert table name in UPPER CASE (2) ##COLUMNNAME## -> insert all
column names in UPPER CASE (3) ##KEYFIELDSAND- -> array of ints defining which cols
are SORTORDER keys (4) ##tableobjectname## -> all lower case normalised table name

(5) ##ObjectName## -> upper and lower case normalised or specified object name (6) ##objectname## -> lower case normalised or specified object name (7) ##BaseTableObjects## -> enumerate all base table objects (8) ##inheritanceblock## -> recursively invoke parseSkeletonRecord() until ##endinheritanceblock## is encountered in the input template stream (9) ##index## -> insert an index counter, scoped within a given ##codeblock## (10) ##AttributeName## -> attribute name as a java-style class-- first byte upper case (11) ##attributeName## -> attribute name as a java-style method-- first byte lower case (12) ##ATTRIBUTENAME## -> UPPER CASE attribute name (13) ##attributeblock## -> recursively invoke parseSkeletonRecord() until ##endattributeblock## is encountered in the input template stream (14) ##attributeonlyblock## -> same as an ##attributeblock## but with no key fields (15) ##allkeyattributeblock## -> same as an ##attributeblock## but # with only key fields (16) ##keyFields## -> insert key fields as java-style method-- first byte lower case (17) ##MAXKEYCOUNT## -> insert nonnegative numeric integer constant of all object keys (18) ##ATTRIBUTECOUNT## -> insert nnic of count of attributes of object, including keys (19) ##parentKeyFields## -> insert key fields of top-level table object ONLY-- first byte lower case (20) ##attributesNoKeys## -> insert attribute names only, no primary or secondary keyfields (21) ##attributeNamesKeysQua -> all attributes, but at the end of a lfield## key field append keysuffix_ (22) ##keymap## -> insert metadata about key fields of underlying base tables (23) ##OBJECTNAME## -> UPPERCASE normalised or specified object name (24) ##counter+init## -> special tag to initialise a special internal counter. No output. (25) ##counter## -> insert the current value of the above counter, then increment (26) ##registryentrycount## -> insert the count of registry entries written (27) ##allcolumnblock## -> recursively invoke parseSkeletonRecord() until ##endcolumnblock## is encountered in the input template stream (28) ##COLUMNNAME## -> recursively insert a singular column name in UPPER CASE (29) ##TABLE## -> recursively insert a singular table name in UPPER CASE (30) ##entrycount++## -> increment registry entry count-- no output (31) ##allattributeblock## -> recursively invoke parseSkeletonRecord() until ##endcolumnblock## is encountered in the input template stream (32) ##DEFAULTMIN## -> based on datatype and attribute length, insert a reasonable default minimum value (33) ##DEFAULTMAX## -> based on datatype and attribute length, insert a reasonable default minimum value (34) ##VALIDATIONTYPE## -> based on datatype insert the validation type as defined in the OSFRulesObject base class (35) ##fieldlength## -> insert the maximum field length (36) ##picklistcandidates## -> insert picklist candidates from table scan or default string (37) ##iso639language## -> insert the current two byte iso639 language string (38) ##LANGUAGE## -> insert the current language descriptor (39) ##AttributeNameExpanded -> add a space before the 2nd through n capitals in an attribute name and then insert (40) ##language## -> insert the current language descriptor, in lower case (41) ##picklistvalues## -> insert all picklist values (multiple lines) or if no picklist exists for this column, suppress output of the record (42) ##picklistvalue## -> insert a unique picklist value guaranteed to be unique (43) ##picklistvalues## -> insert all unique picklist values (multiple lines) or if no picklist exists for this column, suppress output of the record (44) ##databaseblock## -> recursively invoke parseSkeletonRecord() until ##enddatabaseblock## is encountered in the input template stream, setting currentdatabase_ on each iteration for each instance on the OSFDatabase list (45) ##DBLOGICALNAME## -> insert in upper case the internal logical name of the currentdatabase_ (46) ##DBOWNER## -> insert in upper case the ownername of the currentdatabase_ and continue with further replacements (47) ##DBPASSWORD## -> insert in the case entered the password of the owner in the currentdatabase_ object and continue on with further replacements (48) ##DBTYPENAME## -> insert in upper case the jdbtools type name of the currentdatabase_, carry on with further replacements (49) ##DBSERVER## -> insert in the case entered the hostname or IP address in the currentdatabase_, carry on with further replacements (50) ##DBPORT## -> insert IP connect port in the currentdatabase_ object, carry on with further replacements (51) ##DBINSTANCE## -> insert in the case entered the instance name or SID in the currentdatabase_ object, carry on with further replacements (52) ##DBOWNER## -> insert in the case entered by the user the owner / user name in the

currentdatabase_ object, carry on with further replacements (53) ##MINKEYCOUNT## -> insert count of keys for a partially qualified read = key count of top level parent (54) ##hasparentconstraint## -> table is part of a relation / has a parent or owning table (55) ##testvalues## -> based upon current object context, insert a list of test attribute values (56) */ ##attributename## -> attribute name as an automatic declaration (57) ##attributenamekeysqual -> all attributes, lower case, at the ified## end of a key field append a lower case keysuffix_ (58) ##javadatatype## -> insert an appropriate Java data type depending on the normalised internal datatype (59) ##initializer## -> insert an appropriate initialiser depending on the normalised internal datatype (60) ##JavaPrimitiveObject## -> insert an name suitable for use in conversion methods (61) ##INTERNALDATA- -> insert the internal datatypes based TYPES## on the current _table (62)

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TITLE: Method and apparatus to make and transmit objects from a database on a server computer to a client computer

Drawing Description Text (10):

FIG. 9 is a screen shot of a Database Connect Panel--DB Login.

Detailed Description Text (94):

A comprehensive exception handling scheme handles all server-side exceptions, standardizes and normalizes them then transmits the exceptions via CORBA. When received at the client end or requesting server-side middleware, PersistentObjectEvent.COMPONENTEXCEPTION events are fired to all registered listeners in the PRO-OBJECT with all indicative data about the exception in a format presentable to the end-user.

Detailed Description Text (118):

Shared Activation Mode: Shared activation mode can be used when registering a CORBA object server implementation since shared activation mode saves memory and nominalizes ORB overhead. Since all object servers, regardless of architecture, start a thread each time a database has to be accessed, one user will not affect another in the server in shared activation mode. Per-client activation mode can also be used if lots of server resources are available and the absolute best performance is desired for the client workstations/end users. We recommend this option and it is the default used in the script that registers CORBA object servers with the ORB.

Detailed Description Text (135):

Then only the attributes that are to be changed in the persistent relational object are added to the OSFORBStream. In addition to the attribute ID and the new attribute value, the old attribute value is added to the OSFORBStream as well. Given that PRO-OBJECTS can take the form of JavaBean components, it makes sense to handle the persistent relational update in the same manner as the update of a JavaBean bound property (in fact, that's precisely what occurs: the attribute property is changed and then the remote RDB is synchronized, with the old, previous value of the attribute being sent to the server in the OSFORBStream). The OSFORBStream is then transmitted to the server implementation. A remote server exception will restore any changes made to bound properties and fire a PersistentObjectEvent.COMPONENTEXCEPTION to all registered event listeners.

Detailed Description Text (138):

These steps are taken if the attribute value as believed current by the client is not matched to the column value in the database: A rollback() is issued against the current Connection object in the server implementation to roll out any partially completed updates and to free all locks an OSFDBValueUpdateCompareException is thrown over CORBA to the client. PRO-OBJECT a COMPONENTEXCEPTION PersistentObjectEvent is thrown in the PRO-OBJECT to all interested and registered event listeners the end user notified that he or she was dealing with stale data

Detailed Description Text (234):

The solution is simple. Create another WWW server, install the servlet .class files, register the servlets and configure the servlet.properties and other properties needed by the web server and test.

Detailed Description Text (253):

Many applications built today require a user to terminate and restart the application when a network, hardware or software failure occurs. Also users may have to logoff and login/reauthenticate when a network, hardware or software problem occurs. We consider both of these methods of human, end-user recovery to be not at all acceptable.

Detailed Description Text (254):

Each ObjectServerFactory architecture solution offers transparent recovery in the event of network, hardware or server software component failure. In addition, server load can be easily balanced between servers within a given login session. How this capability is enabled through solid design is and intelligent design patterns are outlined in the following sections.

Detailed Description Text (306):

In addition to client-end and server-side persistent, relational object classes, OSF generates: OMG Interface Definition Language which exposes remote server methods to PRO-OBJECT based clients Build scripts for all generated code, including invocation of the IDL compiler and compiling IDL output A server registration script to register the CORBA server implementations with the Object Request Broker Master sedlanguage translation scripts to propagate translations to the various java.util.ListResourceBundle-derived objects HTML template files for data entry, inquiry and tabular display A Registry.java file containing all runtime parameters for a given installation, along with accessor classes and the object map Test programs for standalone testing of PRO-OBJECT component Other assorted utility and convenience scripts including a buildall script which builds everything in the proper sequence, interleaving builds into separate processes when possible

Detailed Description Text (402):

The Database Connect window contains three property pages used to enter the parameters needed to connect to the various relational databases: DB Login, Advanced Connect and Drivers/URL.

Detailed Description Text (403):

(39)DB Login Panel

Detailed Description Text (705):

This section is reserved for important classes not built by OSF but used to support the various runtime environments. Examples of these classes are: The Registry class contains all of the parameters which are unique to a given customer application. Database connect parameters and driver information, default database server IP addresses, initial object-> base table and column mapping parameters and basic rules edit parameters are contained in the Registry class. Also, a few parameters that were initially manifest constants were moved out of the code into the Registry so the values could be changed without recompiling the application modules. The OSFControlServlet class is the servlet that invokes the OSFSecurity object to validate logins, perform runtime authorization and to switch the browser context from servlet to servlet. OSFPickListBuildThread is the class that scans each database table to construct default edit rules and to build lists of possible pick list candidates.

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End of Result Set



Generate Collection

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File: USPT

Jul 8, 2003

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TITLE: Method and apparatus to make and transmit objects from a database on a server computer to a client computer

Detailed Description Text (25):

OSF Support Classes are then discussed. Examples of these support classes include pick list generation, distributed edit/business rules, and real-time performance measurement and analysis. The Registry class is central to runtime system configuration and it is described in this section.

Detailed Description Text (255):

(23) Ultrathin Client Architecture Rule #1 in the distributed component business is to "Never let the users fall asleep in front of their workstations".

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L10: Entry 2 of 2

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